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WORLDCOM, INC.
TECHNOLOGY LAW DEPARTMENT
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EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,013

Applicant(s)

HARDY, WILLIAM CHRISTOPHER

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-38 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/2/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 1//2004 have been fully considered but they are not persuasive. On pages 2-5 of the Response, Applicant argues that Randic does not disclose the step of transmitting at least one set of N waveforms. Specifically, Applicant argues that Randic does not disclose the step of transmitting at least one set of N waveforms since the passages cited by the Examiner describe an Automatic Voice Recognition system that “generates a voice quality factor by comparing the number of matching words in the received file and a reference file”. Examiner, respectfully, disagrees with Applicant’s assertion that Randic does not disclose the step of transmitting at least one set of N waveforms in the passages cited in the rejection. In col. 3, lines 53-57, Randic expressly discloses that the “AVR system 24 compares the speech patterns in the transmitted voice test files ... with speech patterns of the voice test file” where the transmitted voice file contains the at least one set of N waveforms. As such, Randic expressly discloses the transmitting step.
2. Additionally, Applicant argues on pages 2-5 of the Response that Randic does not disclose the steps of receiving and processing a telephonic signal to obtain a sequence of values since Randic “does not describe processing a telephonic signal to obtain a sequence of values”. Again, Examiner, respectfully, disagrees. Randic expressly discloses that the received voice file is compared with stored voice file to determine “the number of matching letters, words, or sentences between transmitted voice file 17 and stored voice test file 23”. In the claim, Applicant does not limit the term “value” such that the term “value” can be broadly interpreted. In this instance, Examiner uses the term “value” to be the letters, words, or sentences contained in the

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test file. As such, Randic expressly discloses processing a telephonic signal to obtain a sequence of values.

3. Applicant further argues on pages 2-5 of the Response that “Randic does not teach, suggest, or disclose the step of comparing the received sequence of values to the predetermined sequence of transmitted values to detect dropped packets”. Examiner, respectfully, disagrees.

Randic discloses that alteration of the voice test file often results in missing (dropped) packets (col. 5, lines 23-48). Randic also discloses that the system performs tests to determine a voice path quality factor (col. 6, lines 9-43) where alteration of the voice test file due to missing packets negatively impacts the voice path quality factor (col. 5, line 23-col. 6, line 43). While Randic does not expressly disclose that dropped packets are detected, it is inherent that Randic’s system would detect dropped packets since missing packets would alter the voice signal and so negatively impact the voice path quality factor.

4. Furthermore, on pages 2-5 of the Response, Applicant argues that the dependent claims are allowable in their own right where, for example, Applicant asserts that Randic does not disclose that the waveform includes a first segment and a second segment, as disclosed in claim 7, or that the second segment includes the waveform characteristic, as disclosed in claim 8. Specifically, Applicant argues that Examiner’s interpretation that the term “segment” can mean a single letter or word is incorrect since “those of ordinary skill in the art understand that waveforms are typically represented by a line that varies in amplitude with respect to time. Thus, a segment of a waveform refers to a portion of that line.” Examiner agrees that waveforms are typically represented by a line that varies in amplitude with respect to time and that a segment of a waveform refers to a portion of that line. In Examiner’s interpretation, the waveform is a

sentence or a word from a voice test file and the segment of the waveform is a word or a letter contained in that waveform, respectively.

5. For the aforementioned reasons, Examiner maintains that the rejection of claims 1-21 and 33-38 under Randic since Randic discloses or suggests all of the limitation recited in claims 1, 33, 34, and 35.

6. Applicant proceeds to argue on page 6 of the Response that in addition to not teaching or suggesting “any of the methods recited in the claims”, “Randic does not teach or suggest any system, or system elements, that perform these methods either”. Examiner, respectfully, disagrees. For the aforementioned reasons, Examiner maintains that Randic teaches or suggests the methods in the claims. By extension, Examiner maintains that Randic teaches or suggests a system and system elements to perform these methods.

7. Applicant further argues on page 6 of the Response that the dependent claims are allowable in their own right. For example, Applicant argues that for claim 23 “the Examiner has failed to make a prima facie argument because he has failed to point out where the cited text teaches or suggests all of the claim limitations”. Examiner, respectfully, disagrees. Although the cited passage is large, the cited text includes many passages referenced in the rejections of other claims. Examiner assumes that the rejection of claim 23 is not being read in a vacuum, but rather the rejection is being read in the context of the other rejections. Therefore Examiner assumes Applicant has a familiarity with much of the text contained in the cited passage. Given this familiarity with the passages, Examiner asserts that a prima facie argument has been made. However, since Applicant requests a more detailed analysis, Examiner provides the following: Regarding claim 23, referring to claim 22, Randic discloses that the transmission unit further

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comprises: a computer-readable medium for storing data representing the at least one set of N waveforms (col. 4, lines 33-41); a processor (computer) coupled to the computer readable medium, the processor being programmed to retrieve the data from the computer readable medium (col. 4, lines 33-41); and a codec device for converting the data into a signal suitable for transmission over the telecommunications network (col. 4, lines 33-41; col. 4, lines 56-67; and col. 5, lines 25-43). Since the cited passage includes all of the elements of the rejected claim, as specifically detailed above, Examiner maintains the rejection of claim 23.

8. For the aforementioned reasons, Examiner maintains that the rejection of claims 22-32 under Randic since Randic discloses or suggests all of the limitation recited in claims 22 and the claims depending therefrom.

9. Applicant goes on to argue on page 7 of the Response that "Examiner has failed to provide any statement regarding the suggestion or motivation, either in the references itself or in the knowledge generally available to one of ordinary skill in the art, to modify the Randic reference". Examiner asserts that the rejection of claims 1-38 using 35 U.S.C. § 103 is proper since Randic does not explicitly disclose all of the limitations of the claims. However, for the aforementioned reasons, Examiner asserts that Randic implicitly teaches or suggests all of the limitations of claims 1, 7-9, 22, 23, and 33-35.

10. On pages 7-8 of the Response, Applicant first argues that claims 2-4, 11, 12, 14-19, 24-28, and 36 are allowable by virtue of their dependency from patentable independent claims; however, for the aforementioned reasons, Examiner maintains that the independent claims from which claims 2-4, 11, 12, 14-19, 24-28, and 36 depend are not patentable. Therefore, claims 2-4,

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11, 12, 14-19, 24-28, and 36 are not allowable by virtue of their dependency from patentable independent claims.

11. Applicant then argues that the dependent claims are allowable in their own right.

Specifically Applicant argues that Fitch does not disclose that the representative waveform characteristic is a peak power level as is disclosed in claim 2. Examiner agrees that Fitch does not expressly disclose that the representative waveform characteristic is a peak power level. This is explicitly stated in the rejection. Rather, Fitch discloses that using power levels to compare a known test signal with a received test signal is a well-known technique for accomplishing a comparison (col. 7, lines 33-39). Examiner took official notice that it is well known in the art to use peak power as a power measurement. Thus, the combination of Randic, Fitch, and knowledge generally available in the art renders claim 2 obvious. As such, Examiner maintains the rejection of claim 2 under Randic in view of Fitch.

12. In response to applicant's arguments on pages 7-8 of the Response that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Randic teaches that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches using power levels to compare a known test signal and a received test signal in a system for testing telephone equipment. Thus, Randic recognizes that other types of comparisons can be made

where Fitch discloses another type of comparison. While Randic and Fitch may test different equipment on a telephone system, the basic principles of the test are the same, namely comparing a transmitted signal with a known signal. Therefore, Examiner maintains that the combination of Randic with Fitch is proper.

13. On pages 8-9 of the Response, Applicant first argues that claims 10, 20, 29, 30, and 37 are allowable by virtue of their dependency from patentable independent claims; however, for the aforementioned reasons, Examiner maintains that the independent claims from which claims 10, 20, 29, 30, and 37 depend are not patentable. Therefore, claims 10, 20, 29, 30, and 37 are not allowable by virtue of their dependency from patentable independent claims.

14. Applicant then argues that the dependent claims are allowable in their own right. Specifically Applicant argues that the proposed combination does not disclose the subject matter of the dependent claims since none of the references disclose using a CELP symbol as a representative waveform characteristic. While Applicant makes this broad assertion, Applicant fails to argue any specifics as to why this argument is true. Without any specific argument to address, Examiner will rely on the rejection contained in the previous and current Office Actions to provide the rationale as to why the references disclose using a CELP symbol as a representative waveform characteristic.

15. Applicant additionally argues that the references are not combinable because there is no suggestion or motivation to combine the reference teachings. Examiner, respectfully, disagrees. The motivation is expressly disclosed in the Office Action, as follows: "It would have been obvious to one of ordinary skill in the art at the time of the invention to use a CELP symbol as the waveform characteristic since CELP symbols distinguish each waveform and thus would be

useful in comparing two waveforms where this results in voice recognition software not being needed.” Since motivation is explicitly provided in the Office Action, Examiner maintains that the rejections of claims 10, 20, 29, 30, and 37 under Randic, Fitch, and Newton are proper.

16. On pages 9-10 of the Response, Applicant first argues that claims 13, 21, 31, 32, and 38 are allowable by virtue of their dependency from patentable independent claims; however, for the aforementioned reasons, Examiner maintains that the independent claims from which claims 13, 21, 31, 32, and 38 depend are not patentable. Therefore, claims 13, 21, 31, 32, and 38 are not allowable by virtue of their dependency from patentable independent claims.

17. Applicant then argues that the dependent claims are allowable in their own right. Specifically Applicant argues that none of the references disclose using a semantically encoded waveform as a representative waveform characteristic. Examiner, respectfully, asserts that it is not the individual references taken separately that disclose using a semantically encoded waveform as a representative waveform characteristic but rather the combination of references discloses using a semantically encoded waveform as a representative waveform characteristic. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As explicitly stated in the Office Action, Randic teaches that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches that a variety of methods to compare a known test signal with a received test signal are known and are applicable to compare a known telephonic signal to a received telephonic signal (col. 7, lines 57-58). Hardy discloses that semantic waveforms are known in the prior art (page 12, lines 20-22) where semantic waveforms

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contain "pre-selected bit patterns" (col. 3, lines 15-27). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use semantically encoded waveforms to transmit a sequence number since a sequence number is a "pre-selected bit pattern" where this results in voice recognition software not being needed. As such, Examiner maintains the rejection of claims 13, 21, 31, 32, and 38 under Randic, Fitch, and Hardy since Randic, Fitch, and Hardy teach or suggest all of the limitations of claims 13, 21, 31, 32, and 38.

18. Applicant further argues on pages 9-10 of the Response, that Randic, Fitch, and Hardy are not properly combinable since Hardy applies to circuit switched networks and Randic applies to packet switched networks. Examiner, respectfully, disagrees. Hardy specifically discloses that the telephone signals may be transmitted over a variety of transmission mediums in a variety of formats (col. 5, line 37-col. 6, line 31). As such, Examiner maintains that the combination of Randic, Fitch, and Hardy is proper.

19. Given the above arguments, Examiner maintains the rejections of claims 1-4 and 7-38.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 1, 7-9, 22, 23, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randic (USPN 6,275,797).

22. Regarding claims 1, 22, and 33-35, Randic discloses a method, system, and computer readable medium for testing telecommunications equipment in a network, including a packet

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switched network, the method and program comprising steps of and the system comprising means for: establishing a telephonic connection between a first network location and a second network location (Figs. 2 and 3; col. 2, lines 30-46; and col. 4, line 31-col. 5, line 67); transmitting at least one set of N waveforms (words from a voice test file) from the first network location, each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms (col. 3, lines 50-61 and col. 6, lines 20-43) where it is implicit that each waveform has a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set since each waveform is distinguishable from the other waveforms in the set and where the predetermined sequence of values is set by the reception order to the file (i.e. "This is a test" is a predetermined sequence of particular words distinguishable from "Is this a test" where the predetermined sequence is changed and distinguishable from "This is a beach" where the predetermined values are changed); receiving at least one telephonic signal at the second network location via the communications channel (col. 5, line 23-col. 6, line 43); processing the at least one telephonic signal to obtain a received sequence of values (col. 5, line 23-col. 6, line 43); and comparing the received sequence of values to the predetermined sequence of transmitted values to detect dropped packets without having access to packet switched network control data (col. 5, line 23-col. 6, line 43, esp. col. 5, lines 44-67) where it is implicit that detecting a reduced quality of communication also detects dropped packets.

23. Regarding claim 7, referring to claim 1, Randic discloses that each waveform includes a first segment and a second segment (col. 4, line 31-67) where "segment" is a very broad term

which can incorporate a variety of meanings. Here, a segment will be interpreted to mean a single letter of a word, such that each waveform (word) includes a first segment and second segment.

24. Regarding claim 8, referring to claim 7, Randic discloses that the second segment includes the representative waveform characteristic (col. 4, line 31-67) where each letter includes the representative waveform characteristic since it is the letters which comprise the representative waveform characteristic (i.e. "the" and "tie" are different waveform characteristics where only the second segment has changed).

25. Regarding claim 9, referring to claim 1, Randic discloses that each predetermined value includes a predetermined bit pattern (col. 4, line 31-67).

26. Regarding claim 23, referring to claim 22, Randic discloses that the transmission unit further comprises: a computer-readable medium for storing data representing the at least one set of N waveforms; a processor coupled to the computer readable medium, the processor being programmed to retrieve the data from the computer readable medium; and a codec device for converting the data into a signal suitable for transmission over the telecommunications network (col. 4, line 31-col. 6, line 43).

27. Claims 2-4, 11, 12, 14-19, 24-28, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randic (USPN 6,275,797) as applied to claims 1, 14, 22, and 35 above, and further in view of Fitch (USPN 5,633,909).

28. Regarding claims 2 and 3, referring to claim 1, Randic does not expressly disclose that the representative waveform characteristic is a peak power level or average power level since Randic discloses comparing matching words rather than power levels (col. 6, lines 30-32).

However, Randic does teach that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that using power levels to compare a known test signal with a received test signal is a well known technique for accomplishing a comparison (col. 7, lines 33-39). Examiner takes official notice that peak power and average power are two well-known power measurements. It would have been obvious to one of ordinary skill in the art at the time of the invention to use peak power or average power as the waveform characteristic since using peak power or average power rather than speech recognition to compare the received and known waveforms is well known in the art where this results in voice recognition software not being needed.

29. Regarding claim 4, referring to claim 1, Randic does not expressly disclose that each waveform in the set of N waveforms includes a representative waveform characteristic corresponding to one of N peak power levels since Randic discloses comparing matching words rather than power levels (col. 6, lines 30-32). However, Randic does teach that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that using power levels to compare a known test signal with a received test signal is a well known technique for accomplishing a comparison (col. 7, lines 33-39), where it is implicit that each segment of the signal will have a power level different from other segments. Examiner takes official notice that peak power is a well-known power measurement. It would have been obvious to one of ordinary skill in the art at the time of the invention to have each waveform in the set of N waveforms includes a representative waveform characteristic corresponding to one of N peak power levels

since using peak power rather than speech recognition to compare the received and known waveforms is well known in the art where this results in voice recognition software not being needed.

30. Regarding claim 11, referring to claim 1, Randic does not expressly disclose that the representative waveform characteristic includes a frequency of the waveform since Randic discloses comparing matching words rather than frequencies (col. 6, lines 30-32). However, Randic does teach that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that using frequency characteristics to compare a known test signal with a received test signal is a well-known technique for accomplishing a comparison (col. 7, lines 40-58). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a frequency as the waveform characteristic since using frequencies rather than speech recognition to compare the received and known waveforms is well known in the art where this results in voice recognition software not being needed.

31. Regarding claim 12, referring to claim 1, Randic does not expressly disclose that the representative waveform characteristic includes a number of phase changes present in a segment of the waveform since Randic discloses comparing matching words rather than phase changes (col. 6, lines 30-32). However, Randic does teach that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that using a variety of methods to compare a known test signal with a received test signal are known and are applicable to compare a known telephonic signal to a received telephonic signal (col. 7, lines 57-58). Using the number of phase

changes as the representative waveform characteristic is not explicitly disclosed; however, Examiner takes official notice that counting the number of phase changes is a well known method for comparison of two signals. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a the number of phase changes as the waveform characteristic since using the number of phase changes rather than speech recognition to compare the received and known waveforms is well known in the art where this results in voice recognition software not being needed.

32. Regarding claim 14, referring to claim 1, Randic discloses dividing the at least one processed signal into received waveform sections having a duration substantially identical to the transmitted waveform (col. 6, lines 9-35). Randic does not expressly disclose dividing the at least one telephonic signal into received waveform sections having a duration substantially identical to the transmitted waveform since Randic performs speech recognition on the entire received waveform (col. 6, lines 9-35). Fitch teaches, in a system for generating calls and testing telephone equipment, dividing the at least one telephonic signal into received waveform sections having a duration substantially identical to the transmitted waveform (col. 6, line 51-col. 7, line 58) where it is implicit that this is done in order to make a valid comparison between the received and known waveforms. It would have been obvious to one of ordinary skill in the art at the time of the invention to divide the at least one telephonic signal into received waveform sections having a duration substantially identical to the transmitted waveform in order to make a valid comparison between the received and known waveforms.

33. Regarding claims 15, 24, and 36, referring to claims 14, 22, and 35, Randic in view of Fitch discloses analyzing each received waveform section to extract a received waveform

characteristic (Fitch: col. 6, line 51-col. 7, line 58); assigning each received waveform section a received value based on the received waveform characteristic (Fitch: col. 6, line 51-col. 7, line 58); and generating a sequence of received values based on the step of assigning to obtain the received sequence of value (Fitch: col. 6, line 51-col. 7, line 58).

34. Regarding claims 16, 17, 25, and 26, referring to claims 15 and 24, Randic in view of Fitch discloses that a deviation between the predetermined sequence of values and the sequence of section values corresponds to a dropped packet (Randic: col. 5, lines 8-22 and col. 5, lines 44-67 and Fitch: col. 6, line 51-col. 7, line 58).

35. Regarding claims 18 and 27, referring to claims 16 and 24, Randic in view of Fitch discloses that a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition corresponding to a dropped packet (Randic: col. 5, lines 8-22 and col. 5, lines 44-67 and Fitch: col. 6, line 51-col. 7, line 58).

36. Regarding claims 19 and 28, referring to claims 16 and 24, Randic in view of Fitch discloses that a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition indicating a packet loss concealment routine operating in the packet switched network (Randic: col. 5, lines 8-22 and col. 5, lines 44-67 and Fitch: col. 6, line 51-col. 7, line 58).

37. Claims 10, 20, 29, 30, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randic (USPN 6,275,797) as applied to claims 1, 14, 24, and 35 above, and further in view of Fitch (USPN 5,633,909) in further view of Newton ("Newton's Telecom Dictionary").

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38. Regarding claims 10 and 30, referring to claims 1 and 29, Randic does not expressly disclose that the representative waveform characteristic is a waveform corresponding to a CELP symbol since Randic discloses comparing matching words rather than CELP symbols (col. 6, lines 30-32). However, Randic does teach that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that using a variety of methods to compare a known test signal with a received test signal are known and are applicable to compare a known telephonic signal to a received telephonic signal (col. 7, lines 57-58). Newton discloses that CELP is a well-known coding technique, used when converting analog signals into digital signals, that compresses the signal by representing the data as a code index number. As such, in CELP the "data transmitted across the network are only the index number of [a] selected code description." It would have been obvious to one of ordinary skill in the art at the time of the invention to use a CELP symbol as the waveform characteristic since CELP symbols distinguish each waveform and thus would be useful in comparing two waveforms where this results in voice recognition software not being needed.

39. Regarding claims 20, 29, and 37, referring to claim 14, 24, and 35, Randic does not expressly disclose comparing each received waveform section to a plurality of CELP waveform patterns; assigning a symbol number to the received waveform section based on the step of comparing each received waveform section; and generating a sequence of received values using the symbol numbers of the received waveform sections, to thereby obtain the received sequence of values since Randic discloses comparing matching words rather than CELP symbols (col. 6, lines 30-32). However, Randic does teach that speech recognition is only one of a variety of

properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that a variety of methods to compare a known test signal with a received test signal are known and are applicable to compare a known telephonic signal to a received telephonic signal (col. 7, lines 57-58). Newton discloses that CELP is a well-known coding technique, used when converting analog signals into digital signals, that compresses the signal by representing the data as a code index number. As such, in CELP the “data transmitted across the network are only the index number of [a] selected code description.” It would have been obvious to one of ordinary skill in the art at the time of the invention to use a CELP symbol as the waveform characteristic by comparing each received waveform section to a plurality of CELP waveform patterns; assigning a symbol number to the received waveform section based on the step of comparing each received waveform section; and generating a sequence of received values using the symbol numbers of the received waveform sections, to thereby obtain the received sequence of values since CELP symbols distinguish each waveform and thus would be useful in comparing two waveforms where this results in voice recognition software not being needed.

40. Claims 13, 21, 31, 32, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randic (USPN 6,275,797) as applied to claims 1, 14, 24, and 35 above, and further in view of Fitch (USPN 5,633,909) in further view of Hardy (USPN 5,748,876).

41. Regarding claims 13 and 32, referring to claims 1 and 31, Randic does not expressly disclose that the representative waveform characteristic includes a semantically encoded waveform since Randic discloses comparing matching words rather than semantically encoded waveforms (col. 6, lines 30-32). However, Randic does teach that speech recognition is only one

of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that a variety of methods to compare a known test signal with a received test signal are known and are applicable to compare a known telephonic signal to a received telephonic signal (col. 7, lines 57-58). Applicant discloses, by citing Hardy that semantic waveforms are known in the prior art (page 12, lines 20-22). Hardy discloses that semantic waveforms contain "pre-selected bit patterns" (col. 3, lines 15-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to use semantically encoded waveforms to transmit a sequence number since a sequence number is a "pre-selected bit pattern" where this results in voice recognition software not being needed.

42. Regarding claims 21, 31, and 38, referring to claims 14, 24, and 35, Randic does not expressly disclose comparing each received waveform section to a plurality of semantically encoded waveform patterns; assigning a bit-pattern to the received waveform section based on the step of comparing each received waveform section; and generating a sequence of section values using the bit-pattern of the received waveform sections, to thereby obtain the received sequence of values since Randic discloses comparing matching words rather than semantically encoded waveforms (col. 6, lines 30-32). However, Randic does teach that speech recognition is only one of a variety of properties of voice communication (col. 6, lines 36-43). Fitch teaches, in a system for generating calls and testing telephone equipment, that a variety of methods to compare a known test signal with a received test signal are known and are applicable to compare a known telephonic signal to a received telephonic signal (col. 7, lines 57-58). Applicant discloses, by citing Hardy that semantic waveforms are known in the prior art (page 12, lines 20-22). Hardy discloses that semantic waveforms contain "pre-selected bit patterns" (col. 3, lines

15-27). Thus, it would have been obvious to one of ordinary skill in the art to compare each received waveform section to a plurality of semantically encoded waveform patterns; assign a bit-pattern to the received waveform section based on the step of comparing each received waveform section; and generate a sequence of section values using the bit-pattern of the received waveform sections, to thereby obtain the received sequence of values where this results in voice recognition software not being needed.

Allowable Subject Matter

43. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not fairly suggest having the peak power levels correspond to a value between 0 and N such that the predetermined sequence of values is 1, 2, ..., N or that the transmitted set of N waveforms comprise a single waveform having a monotonically increasing or decreasing power level.

Conclusion

44. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703)308-6743.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman
Examiner
Art Unit 2665

DJR
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